What Is Claimed Is:

1. A solder alloy based on nickel, the solder alloy containing at least the following elements: chromium (Cr), cobalt (Co), molybdenum (Mo) and nickel (Ni).

2. The solder alloy as recited in Claim 1, characterized by: nickel (Ni) in a proportion of 63 - 86 wt.%, chromium (Cr) in a proportion of 5 - 17 wt.%, cobalt (Co) in a proportion of 8 - 15 wt.%, molybdenum (Mo) in a proportion of 1 - 5 wt.%.

3. The solder alloy as recited in Claim 1 or 2, wherein the solder alloy additionally contains aluminum (Al).

4. The solder alloy as recited in Claim 3, wherein the solder alloy contains aluminum (Al) in a proportion of 2 - 8 wt.%.

5. The solder alloy as recited in one or more of Claims 1 through 4, wherein the solder alloy additionally contains tantalum (Ta) in a proportion of 1 to 8 wt.% and/or niobium (Nb) in a proportion of 0.1 to 2 wt%.

6. The solder alloy as recited in one or more of Claims 1 through 5, wherein the solder alloy additionally contains palladium (Pd), preferably in a proportion of 0.5 to 5 wt.% and/or yttrium (Y) in a proportion of 0.1 to 1 wt%.

7. The solder alloy as recited in one or more of Claims 1 through 6, wherein the solder alloy additionally contains hafnium (Hf) in a proportion of 1 to 5 wt.% and/or silicon (Si) in a proportion of 0.1 to 1 wt%.

8. The solder alloy as recited in one or more of Claims 1 through 7, wherein the solder alloy contains boron (B), preferably in a proportion of 0.5 - 2.5 wt.%.

9. The solder alloy as recited in one or more of Claims 1 through 8, characterized by:
chromium (Cr) in a proportion of 5 - 17 wt.%,
cobalt (Co) in a proportion of 8 - 15 wt.%,
molybdenum (Mo) in a proportion of 1 - 5 wt.%,
aluminum (Al) in a proportion of 2 - 8 wt.%,
tantalum (Ta) in a proportion of 1 - 8 wt.%,
niobium (Nb) in a proportion of 0.1 - 2 wt.%,
yttrium (Y) in a proportion of 0.1 - 1 wt.%,
hafnium (Hf) in a proportion of 1 - 5 wt.%,
palladium (Pd) in a proportion of 0.5 - 5 wt.%,
boron (B) in a proportion of 0.5 - 2.5 wt.%,
silicon (Si) in a proportion of 0.1 - 1 wt.%,
nickel (Ni) in a residual proportion such that the sum of the portions yields 100 wt.%.

10. The solder alloy as recited in one or more of Claims 1 through 8, characterized by:
chromium (Cr) in a proportion of 9 - 11 wt.%,
cobalt (Co) in a proportion of 9 - 11 wt.%,
molybdenum (Mo) in a proportion of 3.5 - 4.5 wt.%,
aluminum (Al) in a proportion of 3.5 - 4.5 wt.%,
tantalum (Ta) in a proportion of 1.5 - 2.5 wt.%,
niobium (Nb) in a proportion of 0.5 - 1.5 wt.%,
yttrium (Y) in a proportion of 0.1 - 0.5 wt.%,
hafnium (Hf) in a proportion of 3.5 - 4.5 wt.%,
palladium (Pd) in a proportion of 3.5 - 4.5 wt.%,
boron (B) in a proportion of 1.5 - 2.0 wt.%,
nickel (Ni) in a residual proportion such that the sum of the portions yields 100 wt.%.

11. A use of a solder alloy as recited in one or more of Claims 1 through 10 for repairing components of a gas turbine, particularly for repairing the guide blades of a gas turbine, the gas turbine taking the form of an aircraft engine or a stationary gas turbine.

12. A multi-component soldering system, made up of a solder alloy and an additive material as components of the multi-component soldering system, characterized by a solder alloy as recited in one or more of Claims 1 through 10 and by at least one additive material, the melting range of which lies above the melting point of the solder alloy.

13. The multi-component soldering system as recited in Claim 12, wherein the additive material are equivalent to a nickel-based alloy or a cobalt-based alloy.

14. The multi-component soldering system as recited in Claim 12 or 13, wherein the additive material is formed on a nickel basis and contains in addition to nickel (Ni) one or more of the following elements:
chromium (Cr) in a proportion of up to 30 wt.%,
cobalt (Co) in a proportion of up to 20 wt.%,
tungsten (W) in a proportion of up to 15 wt.%,
molybdenum (Mo) in a proportion of up to 10 wt.%,
aluminum (Al) in a proportion of up to 10 wt.%,
tantalum (Ta) in a proportion of up to 10 wt.%,
titanium (Ti) in a proportion of up to 10 wt.%,
rhenium (Re) in a proportion of up to 10 wt.%,
iron (Fe) in a proportion of up to 5 wt.%,
niobium (Nb) in a proportion of up to 5 wt.%,
yttrium (Y) in a proportion of up to 5 wt.%,
hafnium (Hf) in a proportion of up to 5 wt.%,
palladium (Pd) in a proportion of up to 5 wt.%,

carbon (C) in a proportion of up to 1 wt.%,
zirconium (Zr) in a proportion of up to 1 wt.%,
boron (B) in a proportion of up to 1 wt.%,
silicon (Si) in a proportion of up to 1 wt.%,
nickel (Ni) in a residual proportion such that the sum of the portions yields 100 wt.%.

15. The multi-component soldering system as recited in one or more of Claims 12 through 14, wherein the additive material is formed on a nickel basis and contains in addition to nickel (Ni) one or more of the following elements:
chromium (Cr) in a proportion of 13.7 - 14.3 wt.%,
cobalt (Co) in a proportion of 9 - 10 wt.%,
tungsten (W) in a proportion of 3.7 - 4.3 wt.%,
molybdenum (Mo) in a proportion of 3.7 - 4.3 wt.%,
aluminum (Al) in a proportion of 2.8 - 3.2 wt.%,
titanium (Ti) in a proportion of 4.8 - 5.2 wt.%,
carbon (C) in a proportion of 0.15 - 0.19 wt.%,
zirconium (Zr) in a proportion of 0.03 - 0.1 wt.%,
boron (B) in a proportion of 0.01 - 0.02 wt.%,
nickel (Ni) in a residual proportion such that the sum of the portions yields 100 wt.%.

16. A use of a multi-component soldering system as recited in one or more of Claims 12 through 15 for repairing components of a gas turbine, particularly for repairing the guide blades of a gas turbine, the gas turbine taking the form of an aircraft engine or a stationary gas turbine.

17. A method for processing, particularly for repairing or manufacturing, workpieces, particularly guide blades of a gas turbine, the processing of the workpiece occurring by soldering using a solder alloy or using a multi-component

soldering system, wherein the solder alloy is based on nickel and contains at least the following elements: chromium (Cr), cobalt (Co), molybdenum (Mo) and nickel (Ni).

18. The method as recited in Claim 17, characterized by a solder alloy as recited in one or more of Claims 1 through 10.

19. The method as recited in Claim 17 or 18, characterized by a multi-component soldering system as recited in one or more of Claims 12 through 15.

20. The method as recited in one or more of Claims 17 through 19, wherein high-temperature diffusion soldering is used as soldering method.

21. The method as recited in Claim 20, wherein the high-temperature diffusion soldering as soldering method occurs under the following conditions:
Heating under vacuum or protective gas to a temperature of 1200 - 1260°C with a subsequent holding time of 15 - 60 min,
Cooling under vacuum or protective gas to a temperature of 1100 - 1140°C with a subsequent holding time of approximately 240 min,
Cooling under vacuum or protective gas to a temperature of 1080 - 1120°C with a subsequent holding time of approximately 60 min,

22. The method as recited in Claim 20 or 21, wherein the high-temperature diffusion soldering is followed by the following heat treatment: Heating under vacuum or protective gas to a temperature of 1065-1093°C with a

subsequent holding time of approximately 240 min, this preferably occurring in the context of a coating process.

23. The method as recited in Claim 20 or 21, wherein the high-temperature diffusion soldering is followed by the following heat treatment: Heating under vacuum or protective gas or ambient atmosphere to a temperature of 871-927°C with a subsequent holding time of 60 - 960 min, this preferably occurring in the context of an aging process.